

Riverside Bridge (Booth Street Bridge)
Booth Street spanning the Truckee River
Reno
Washoe County
Nevada

HAER No. NV-10

HAER
NEV,
16-RENO,
2-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Western Region
Department of Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

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2-

RIVERSIDE BRIDGE (BOOTH STREET BRIDGE)

HAER No. NV-10

Location: Spans the Truckee River west of downtown Reno,
Washoe County, Nevada

USGS 7.5', Reno, Nevada, 1967 (photorevised,
1982)
UTM 11.257100E/4378100N

Construction Date: 1920

Architect: C. R. Hill, Consulting Engineer, Reno.

Builder: J. L. Hoffmann, Reno.

Present Owner: Washoe County Engineer,
12205 Mill St,
Reno, Nevada
Tel. No. 702-785-4281

Present Use: Two-lane bridge (vehicle and pedestrian)

Significance: The Riverside Bridge is one of three surviving
concrete arch deck bridges in Nevada. Its
significance chiefly arises from this fact,
and from its comparatively early construction
date (it is not, however, the oldest surviving
Reno bridge or, even, the oldest surviving
Reno bridge of its type). The original
concrete railings were replaced just after
World War II by the present steel railings.

Report by: F. Petersen, Ph.d
Consultant Archeologist
Environmental Services Division
Nevada Department of Transportation
1263 South Stewart Street
Carson City, Nevada 89712

Date: March, 1990

HISTORICAL NARRATIVE

Description

The Riverside Bridge (NDOT B-1621) is a single-span concrete arch crossing the Truckee River in western Reno. It currently carries both vehicular (two-lane) and pedestrian traffic, and has done so since its construction in 1920. The existing plain steel railings were added to the bridge in the late 1940s (c. 1947), replacing the original concrete railings (NV-10-1-7).

The existing bridge was preceded on the site by "the low-slung Electric Light Company bridge, a wooden piling structure built around the turn of the century". This structure was "almost completely" destroyed by a flood in 1907, and was never rebuilt (Comer 1981; photograph of 1907 flood, showing the Electric Light Company bridge, in Goodwin 1977). According to Goodwin 1977, the clearance of the present structure is "almost" as low as that of the old bridge.

Construction

The bridge was erected in 1920 under joint funding by the City of Reno and the Washoe County Commissioners. Except for various construction plans (NV-10-12-18) no official documentation survives for this project (S. Varela, City of Reno Public Works Department, personal communication, 12/12/89; F. Vosburg, Washoe County Public Works Department, personal communication, 2/20/90). According to contemporary newspaper accounts (Reno Evening Gazette, 1/27/20, p.5; 3/4/20, p.8; 3/29/20, p.6), the anticipated construction cost was \$25,000, half to be borne by the City of Reno, the other half by the Washoe County Commissioners; included in this figure was the expense of removing the wood and stone masonry remains of the old Electric Light Company bridge. The Commissioners were to put the project out to bid, sign the construction contract, and pay all the bills, with the City to provide its contribution by assessment of half the final cost. It was further agreed that the City was to furnish the crushed rock to be used in the project for \$1.90 per cubic yard, sand for \$1.00 per cubic yard, and cement for \$1.00 per ton above cost. The Board of Construction consisted of three men: one each from the City Council and the Washoe County Commissioners, and a third person nominated by the other two. Snapshots in the keeping of the Nevada Historical Society, Reno (Cann 1920: NV-10-8-11), indicate that construction on the bridge was well under way by July, 1920. A summary of the newspaper accounts cited above may be found in Nylen 1982.

People and Contractors Associated with the Bridge

The architect of the bridge was Professor C. R. Hill of Reno. Its builder was Jean Louis Hoffmann, then of Gardnerville (Nevada), but moving to Reno in 1921, shortly after construction was finished. According to his obituary in the Nevada State Journal (Anon 1975), Hoffmann was born in France on November 17th, 1876. He was educated in Denmark and Norway, emigrating to Gardnerville in 1906 after a number of years in the "construction business" in South Africa. He continued to work as a builder until "well into his 85th year" (= 1961), and, in addition to the Riverside Bridge, is said to have constructed "numerous bridges in the Ely and Smith Valley areas". In his later years he constructed houses in Reno and Lake Tahoe; after his retirement, he built custom furniture.

The reference to "numerous bridges in the Ely and Smith Valley areas" in Hoffmann's obituary is puzzling, since his name does not appear in connection with any other bridge listed in the NDOT Inventory (NDOT 1988:26). Perhaps the bridges referred to were constructed after 1946, the Inventory cut-off date. The Riverside Bridge architect (C. R. Hill) is also unrepresented in the Inventory, except in connection with this bridge.

Technology and Design

The following account of the structural characteristics of the bridge is based on the original construction plans (NV-10-12-18) supplemented by information supplied by NDOT Bridge Section personnel (Ruedy Edgington and colleagues). The Riverside bridge is a single-span earth-filled concrete arch-deck with a 120-foot clear span (central rise 11 feet, 7.25 inches) and a travelway width of 24 feet (railing to railing width 31 feet) with pedestrian sidewalks on either side. Concrete structural elements were reinforced with iron rods (rebar) of various diameters. The arch was designed to carry live loads not to exceed 200 pounds per square foot (= two 15-ton trucks) on the roadway, and 150 pounds per square foot on the sidewalks; it was poured continuously in 11 monolithic sections. The load between the roadway and the ends of the arch is borne by earth fill retained by shell walls of reinforced concrete; support for the overhanging sidewalks is provided by a series of vertical concrete buttresses spaced at intervals along the sides of the shell walls. See the construction plans (NV-10-12-15) and photographs (NV-10-1-7) for further details on the dimensions and structure of the bridge.

The bridge was originally fitted with concrete railings with lamp standards at each corner; the lamp standards were removed in 1940

when the concrete railings were replaced by the present "Type A" "standard metal rails" (see "Historical Changes", below).

Identical bronze tablets on the concrete posts (caps removed) of the former lamp standards at the southeast and northwest corners bear the following inscription (NV-10-7):

"Riverside Bridge/built jointly by/Washoe County and/the City of Reno/1920/Board of County/Commissioners/C. D. Terwilliger Chairman/J. C. Durham/Robt. Nelson/City Council/J. C. Stewart Mayor/C. C. Bridgman/C. N. Duborg/Roy J. Frisch/Walter Pickrell/Geo. F. Smith/S. E. Ross/C. R. Hill/Consulting Engineer/Reno Nevada/J. L. Hoffmann/Contractor/Minden Nevada".

Three other concrete arch-deck bridges exist, or are known to have once existed, in Nevada: B-177, B-178, and B-1656 (NDOT bridge structure code 111; NDOT 1988:50-54). B-177 no longer survives, having been replaced in recent years by a more modern structure. B-178 (the Virginia Street bridge), a two-span structure, crosses the Truckee in downtown Reno; it was constructed in 1910, retains its original ornate steel railings and lamp posts, and has been listed on the National Register of Historic Places (NDOT 1988:319). B-1656, another two-span urban bridge (Winnemucca), is also still in use; like the Virginia Street structure it was built in 1910 but, unlike the latter, various original features (railings, sidewalks) have been lost or replaced over the years, and its current overall condition is said to be poor (NDOT 1988:111).

Historical Background and Associated Events

The Riverside bridge was the 13th or 14th bridge constructed in the state of the 147 listed in the Nevada Department of Transportation Inventory and the last of its structural type: concrete arch-deck (NDOT 1988:Fig. 2); cf. "Technology and Design", above.

The Riverside bridge was traditionally called by that name in north Reno, but was known as the "Booth Street" bridge by the inhabitants of southwest Reno. An early resident (Comer 1981) recalls that in 1924, four years after construction, the bridge was very busy. If you wanted to go to Verdi or points west you went to the end of Riverside Drive and crossed the bridge to Booth St (then a dirt road). At the bottom of California Avenue, you meandered west along a dirt road to Mayberry. "This was called Verdi Road; after crossing two iron truss bridges and a couple of railroad overpasses, it finally dropped into Verdi the way you drop into it now from Boomtown".

Other heavy users of bridge were visitors to the "new Idlewild Park". In 1928, the international highways exposition was staged in Idlewild to celebrate the 1926 opening of the Lincoln Highway. A substantial increase in traffic over the bridge occurred in 1949, following upon the move of Reno High School to its present location on Booth Street.

Historical Changes

The only significant change in the physical structure of the bridge since construction occurred in the late 1940s, with the replacement of the original reinforced concrete railings by the present plain utilitarian steel railings (Nevada Department of Highways Standard Metal Rail Type "A": NV-10-16-18). Another original feature, the large concrete lamp standards on each corner, was also removed on this occasion, though the posts for these standards were left in place at the ends of the modern railings (see, Technology and Design, above). The motive for the renovation was evidently twofold: the desire to improve visibility at "the sharp curve of Riverside Drive", and the need to reduce the potential of damage to the bridge from flooding. The old solid concrete railings not only impeded visibility, but also offered more of an obstruction to flood waters than the new steel rails; the visibility problem came to the fore at this time because of the increased traffic flow expected to occur over the bridge after the move of Reno High School to Booth Street in 1949 (Comer 1981).

The characteristics of the original concrete railings may be seen by reference to the architect's plan (NV-10-12-13). As depicted on the plan, the railings appear to have been quite attractive in a plain way: unadorned rectangular columns; minimally decorated (bush-hammer rustication) rectangular panels; and ornate five-globe cylindrical concrete lamp standards at each corner. As a result of the removal of these railings and lamp standards, much of the period character of the bridge has been lost, and it is today much less esthetically pleasing than it would have been in its original form.

Planned Changes

The Riverside Bridge is in poor physical condition--the concrete is badly cracked and crumbled in many places--and is also inadequate for modern needs. The City of Reno intends to replace it with a new, wider structure, with more convenient approaches, with provision for bicycle traffic (bicycle path) as well as for cars and pedestrians, and with improved clearance making it less vulnerable to flooding. The existing bridge will be destroyed, not moved, as transferring it to a new location is infeasible on

practical grounds. Renovation or expansion, retaining portions of the original structure in place, is also impractical from an engineering standpoint.

References

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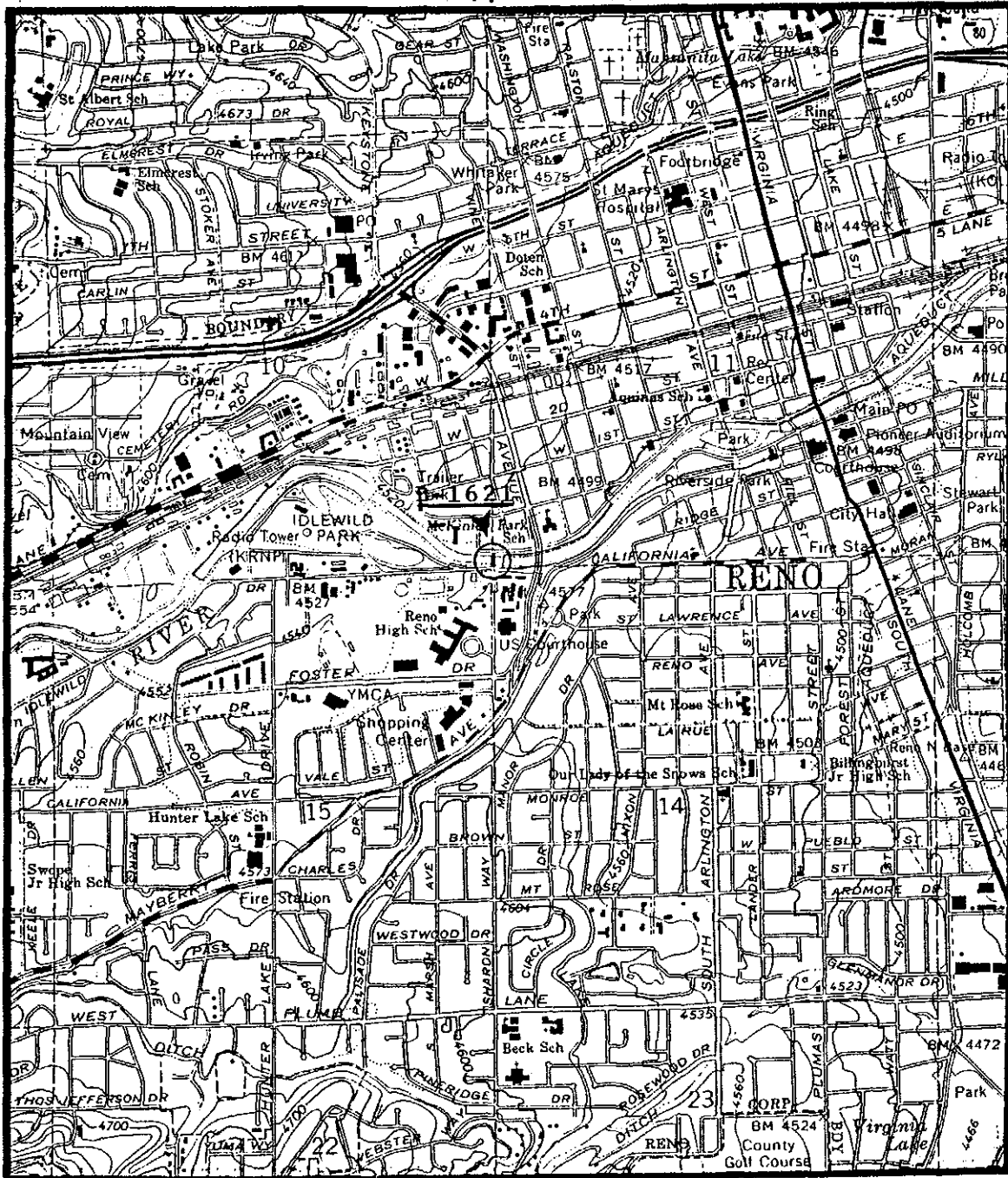
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Booth St. Bridge: Location Map (1:24000 scale). Based on USGS 7.5' quadrant, Reno, Nevada, 1967 (photorevised 1982)